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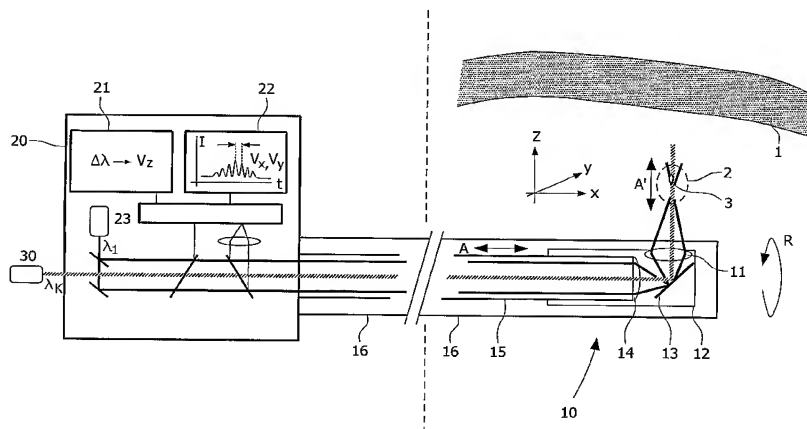
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| <p>(51) International Patent Classification⁷: A61B 5/026, 8/06, G01P 5/00</p> <p>(21) International Application Number: PCT/IB2004/051207</p> <p>(22) International Filing Date: 13 July 2004 (13.07.2004)</p> <p>(25) Filing Language: English</p> <p>(26) Publication Language: English</p> <p>(30) Priority Data: 03102292.4 25 July 2003 (25.07.2003) EP</p> <p>(71) Applicant (for DE only): PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH [DE/DE]; Stein-damm 94, 20099 Hamburg (DE).</p> <p>(71) Applicant (for all designated States except DE, US): KONINKLIJKE PHILIPS ELECTRONICS N. V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).</p> | <p>(72) Inventors; and (75) Inventors/Applicants (for US only): KRÜGER, Sascha [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE). BORG-ERT, Jörn [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).</p> <p>(74) Agent: MEYER, Michael; Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).</p> <p>(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.</p> <p>(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,</p> |
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(54) Title: MEANS FOR PERFORMING MEASUREMENTS IN A VESSEL



(57) Abstract: The invention relates to a facility that can be used, in particular, to measure the flow conditions in a blood vessel. The facility comprises a catheter (16) having a bundle (15) of optical waveguides that connects control and measurement facilities (20) outside the body with an optical unit (10) at the catheter tip. The light (λ_K) generated by a cavitation light laser source (30) is beamed via the catheter (16) and the optical unit (10) into a focus region (2) in the vessel lumen, where it generates cavitation bubbles (3). The movement of the cavitation bubbles (3) with the blood flow is determined by the particle-measuring unit (20) that is based, for example, on phase-Doppler anemometry and/or the Doppler shift. As a result of suitable design of the optical unit (10), the focus region (2) can be displaced as desired radially and rotationally inside the vessel so that a vessel cross section can be scanned in a spatially resolved way. Furthermore, a spectral analysis of the light arriving from the focus region (2) is possible in order, for example, to analyze the chemical composition in this region. The reaching of the vessel wall (1) can be detected by the moving focus region (2) and used for a vessel measurement and/or to switch off the cavitation light laser (30).



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